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ABSTRACT

This study compared the perceptions of Taiwanese preservice teachers at two different points in their educational experience. Participating were 298 preservice teachers who were completing either their first year or third year of a teacher training program. Subjects completed a questionnaire including open-ended questions examining their perceptions of their role as teachers, of ways that children learn, and of their relationships with children. Through the process of translating, sorting, coding written responses and analyses, the description of central beliefs was generated. Content analysis was used as the dominant mode of data analysis. Chi-square analysis was conducted to support claims of representativeness in conjunction with category analysis to provide a better understanding of preservice teachers' beliefs. The findings indicated that the two groups of preservice teachers shared some beliefs and that their beliefs became more integrated with experience. The value of patience and love had a pervasive influence in their perceptions as teachers, their images of classroom practice, and their relationship with students. Opportunities for student self-discovery were emphasized in views regarding learning. There were also qualitative differences related to some beliefs about teaching and learning. The main differences related to willingness to take responsibility for children's learning, conception of how teaching should be conducted, images of learning experience, integration of cognitive ability with social and culture learning, children's learning from experience, and the necessity of building relationships for teaching. (Contains 51 references.) (KB)

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Early Childhood Pre-service Teachers' Beliefs in Taiwan

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Paper presented at the Annual Meeting of the
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Abstract

The study aimed to compare perceptions of Taiwan pre-service teachers at two different points in their educational experience. The instrument included six open-ended questions which examined pre-service teachers' perceptions of their role as teachers, of ways that children learn, and of their relationships with children. Participants included 298 pre-service teachers who were either completing their first year of a teacher training program or who were completing their third year of the program. They participated voluntarily in answering questionnaires.

It was hypothesized that there would be a distinction between the teaching and learning beliefs of beginning-level and ending-level pre-service teachers. Through the process of translating, sorting, coding written responses and analyses, the description of central beliefs was generated. Content analysis method was used as the predominant mode of data analysis. Chi-square analysis was conducted to support claims of representativeness in conjunction with category analysis to provide a better understanding of pre-service teachers' beliefs.

In general, these two groups of pre-service teachers share some of the same beliefs and also demonstrated qualitative differences related to some beliefs about teaching and learning. The study shows that teacher education in Taiwan plays a major role in preserving, broadening and strengthening Chinese educational beliefs. Also the study illuminates how pre-service teaches' beliefs become more integrated with experience.

Early Childhood Pre-service Teachers' Beliefs

Introduction

Pre-service teachers enter teacher preparation programs with well established beliefs about teaching and learning which may be subject to change (Clark, 1988; Clark & Peterson, 1986; Florio-Ruane & Lensmire, 1990; Hollingsworth, 1989; Lortie, 1975; Nespor, 1987; Weinstein, 1989; Wilson, Konopak, & Readence, 1994) or may be relatively stable (Kagan, 1992; McLaughlin, 1991; Weinstein, 1989, 1990). Several studies provide the evidence to support the view that teacher education programs have little impact on teachers' beliefs (Finlayson & Cohen, 1967; Gibson, 1972; Lacey, 1977; McDiarmid, 1990; Zeichner & Tabachnick, 1981). Zeichner & Tabachnich (1981) reported that the beliefs that pre-service teachers bring with them tended to be maintained during the progress of teacher education programs in which student teachers learned the dominant curriculum and pedagogical methods from their cooperating teachers. The formal training in pedagogy at the university is seen as having little impact in comparison with the influence of pretraining experiences (Zeichner & Grant, 1981).

There is no conclusive evidence however, that supports the view that teacher education programs have little impact on pre-service teachers. Evidence exists to support the idea that pre-service teachers' conceptions may change during teacher preparation programs (Feiman-Nemser, McDiarmid, Melnick & Parker, 1989; Florio-Ruane & Lensmire, 1990; Gibson, 1972; Hollingsworth, 1988; Skipper & Quantz, 1987; Tamir, 1991). Feiman-Nemser, McDiarmid, Melnick, and Parker (1989) conducted an exploratory study of conceptual change in 91 pre-

service teachers in an introductory course. They found the entry pre-service teachers perceived teaching as telling and the ending-level pre-service teachers perceived teaching as being more complex. Hollingsworth (1989) stated that students enter teacher education programs with definite ideas about teaching and learning. She described how those beliefs and ideas may change as a result of the experiences provided in the pre-service program. Tamir (1991) concluded that teacher preparation and experiences of prospective teachers significantly affects their expressed views and beliefs on learning and teaching. Florio-Ruane and Lensmire, (1990) Hollingsworth, (1988, 1989) Skipper and Quantz, (1987) and Tamir (1991) indicated that teacher preparation programs seem to enhance the attitudes and beliefs of pre-service teachers. Gibson (1972) also conducted a study of student teacher perceptions concerning teacher-role expectations during a three-year period of anticipatory teacher preparation programs. He found that the early part of the teacher education program seemed to have significant effects in changing students' attitudes.

Research on the conceptual change process indicates that disequilibration, accommodation and assimilation are required (Posner, Strike, Hewson & Gertzog, 1982). Moreover, Prawat (1990) advocated a constructivist approach to teacher education that looks for changes in the pre-service teachers' views about teaching and learning which influence their teaching practice. The pre-service teacher has the capacity to make a connection between his or her experience and program design by situating himself or herself within it. The process of making connections often is carried out in a state of disequilibrium, which is a necessary condition for transformation. The mental constructions of experience usually are integrated or organized into schemata or concepts (Sigel, 1985), and they have an impact on the process of interpretation of new information. Therefore, implicit beliefs about teaching and learning serve as a filter through which the teacher

preparation program is viewed, and through which pre-service teachers perceive and interpret information about teaching and learning (Anderson, 1984; Bennett, 1997; Buchmann & Schwille, 1983; Crow, 1987; Hollingsworth, 1989; Shulman, 1987; Weinstein, 1990). Pre-service teachers inevitably choose what they will respond to in the teacher preparation programs. Consequently, their knowledge acquisition is a process of construction from within, at the same time in interaction with the learning experience in teacher education programs. This process operates actively by the pre-service teachers based on their prior knowledge, experience, concepts and interaction with the program design.

Reviewing the structure of education and conceptions of teaching and learning in Taiwan, one notes that teacher education in Taiwan has special features and natures which reflect cultural perspectives and social attitudes (Chiang & Green, 1995; Darling-Hammond, 1996; Lee, 1990; Liang & McClain, 1991; Lin, 1983; Smith, 1991; Yang, 1995) The present study considers these factors and builds on the theoretical perspectives which assume pre-service teachers actively construct their own knowledge and change their conceptions through the process of equilibration (Piaget, 1975) during teacher education programs.

Building upon earlier studies that examined pre-service teachers' beliefs about teaching and learning (e.g., Calderhead & Robson, 1991; Johnston, 1992; Klein, 1996), this study was designed to explore pre-service teachers' perceptions of: their roles as teachers, children's learning, their relationships with children. It was hypothesized that beliefs in these areas would differ at the beginning and end of the college experience. By comparing pre-service teachers' beliefs at the beginning and ending of teacher preparation, this study assessed the impact of teacher education programs on pre-service teachers in Taiwan. The study enables teacher

educators to understand the relationship between teacher education programs and the perceptions of pre-service teachers, to decode Chinese social values, and to examine these perceptions within a particular culture. Because there are few studies related to early childhood pre-service teachers' beliefs about teaching, learning and relationships with students, this study adds to the knowledge base on pre-service teachers' beliefs and is useful in uncovering underlying beliefs pre-service teachers bring into teacher education programs. When there is more understanding between teachers' beliefs and what is designed in teacher education, there will be more chances to create a meaningful learning environment and to intervene to promote the constructive process. An awareness of pre-service teachers' perspectives and reflection on them can be a means for both teacher educators and teachers to strength meaningful practice (Bennett, 1997; Goodman & Adler, 1985). Moreover, pre-service education programs could assess students' initial beliefs and use other screening criteria to help students overcome any mistaken conceptions about teaching and learning, thus enabling them to "develop schemata for teaching that are complete, well-organized, and stable" (Barnes, 1987, pp. 14-15).

Method

Participants

The sample was drawn from one polytechnic institute and four teachers colleges in Taiwan. Two hundred and ninety-eight pre-service students participated in this study. The sample was composed of two groups: 188 students completing their first year of the teacher training program and 110 students completing their third year of the teacher training program and after teaching for one week in a kindergarten. Entering teacher candidates began college as a

homogeneous group of individuals. Ninety-nine percent of the subjects were under twenty-five years of age. Ninety-eight percent of the participants were female. The difference between teachers colleges and the polytechnical institute is in the mission of the organization. The teachers colleges prepare kindergarten and elementary school teachers for classroom work. Because Taiwan's teacher education curriculum is adopted nationally, requirements varied little between programs. Teacher education programs position field experiences at the end of the preparation program. All participants in the sample were working toward a bachelor's degree. Pre-service teachers participated voluntarily in the study by completing questionnaires.

Instrument

The instrument was created by Gorrell, Hazareesingh, and Carlson (1995) in order to examine pre-service teachers' beliefs about teaching and learning. This instrument is currently being used by researchers in studies of teacher beliefs in several countries (Brazil, Korea, Russia, Sweden, USA), and, because of its open-ended questions that allow individual responses, it is considered to be a valid approach for studying attitudes of both students planning to be teachers and teachers. The exact questions in the instrument are as follows: (1) What will be your most important roles as a teacher? (2) Imagine that you are in your first teaching job. Describe what will be going on in your classroom. (3) What are the best ways that children learn? (4) What are the most important reasons for children to go to school? (5) What will your pupils need most from you as a teacher? (6) What relationships do you expect to have with your pupils?

Demographic information such as age, gender, and minor or collateral field and degree was included in the first part of the questionnaire. This information was used for comparison purposes.

Procedure

Questionnaires were translated into Chinese by two graduate students who could speak Chinese and English and who reached a consensus about the Chinese version of the questionnaire. The Chinese version was distributed to students in Taiwan during regularly scheduled school days. The respondents were asked to write answers to specific questions related to their attitudes toward teaching and learning. Responses to the questions were coded according to major themes in order to examine pre-service teachers' answers and to identify patterns that might exist.

Translation. The written responses from the six open-ended questions were examined by two graduate students who speak Chinese and English. Key Chinese words, phrases or terms in the written responses were identified independently.

Sorting. Each key word was put on index cards according to the two study groups (beginning group, ending group) and question responses (1 to 6) and were sorted into the resulting twelve piles. After each written response was printed on a separate 3x5 index card, the researcher sorted the cards into piles based on content analysis that made sense to the researcher (Guba & Lincoln, 1981; Holsti, 1969).

Coding Written Responses. The frequency of each of the key words, phrases or terms in the written responses were identified independently. From those key words, phrases or terms, descriptive data related to teachers' role, perceptions about teaching young children, perceptions about best ways for young children to learn, the purpose of school for children, children's needs, and the relationship between teachers and students were generated. By examining responses that were mentioned frequently in each group, the two groups were compared according to identified major themes from the key words (Bogdan & Biklen, 1992; Patton, 1990). Through these

processes, the most frequent responses revealed the prospective teachers' common beliefs about teaching and learning.

After the grouping was finalized, each common theme was labeled to indicate its content. The common theme constituted an important meaning component of key words related to pre-service teachers' beliefs about teaching and learning. Selected main clusters of written responses were assigned to common themes according to identified key words. The key words under each common theme were counted and computed into percentages in order to make them directly comparable between the beginning and ending group.

Analyses

The reliability of the coding and categorizing used in data analyses were assessed by two graduate students who speak English and Chinese. First, they practiced coding categories for the responses of randomly selected subjects. Discrepancies were discussed, sources of confusion were clarified, and then the two coders began to categorize responses independently. Through a process of repeated independent coding (Bogdan & Biklen, 1992), they achieved consensus and evolved themes for the written responses. Validity in this study was considered as a process of questioning, checking, and theorizing (Kvale, 1989).

After identifying emerging themes and checking for coding reliability, frequencies and descriptive statistics related to individual categories were compared across the two groups of pre-service teachers. Because the questionnaires provided nominal data, frequencies for each of the key words were used in the coding system. Data were coded as 0 (absent) and 1 (present) on key words. Frequencies and descriptive statistics were used to support claims of representativeness in conjunction with category analysis to provide a better understanding of teachers' beliefs.

To identify themes where the two groups differed, the frequency rankings of all six questions were visually examined. When differences appeared to exist, chi-square was calculated to determine if the observed differences between groups were statistically significant.

A focus group composed of beginning and ending pre-service teachers in Taiwan was convened to follow up the research findings and help to ensure objectivity and validity (Franklin & Knight, 1995).

Results and Discussion

The beliefs of pre-service teachers at the beginning and ending of their education programs tended to be quite similar regarding teaching and learning. This is consistent with earlier findings (Kagan, 1992; McLaughlin, 1991; Weisntein, 1989, 1990). Nevertheless, some differences in views were apparent between the two groups, e.g., the ending-level group emphasized more classroom control than beginning-level group.

The emerging themes, concepts, and dimensions of those concepts were examined through the initial coding of written responses. Those concepts were divided into six categories corresponding to the six open-ended questions: teacher role, images of classroom practice, ways children learn, reasons for schooling, children's needs, and relationship between teachers and students. Common theme labels for each of these categories, percent of participants mentioning each emergent theme, and highly recurring key words within each emergent theme are listed in Table 1. Some themes, for example love, appear in multiple categories. This reflects that respondents used this concept in answering the question used to reveal beliefs about that category.

Insert Table 1 about here

Highly recurring themes which were found cross six categories in both groups are: (a) loving and being patient with children, (b) being an example for students (c) possessing professional knowledge and skill for teaching, (d) considering individual differences of students, (e) focusing on students' cultural and social needs while obtaining knowledge at school, (f) building the teacher-student relationship as a friend or teacher-friend, and (g) emphasizing joy and harmony in the teacher-student relationship. Both groups reflect images of teaching, paying attention to their own characteristics as teachers, considering individual difference in children, building relationships with students, and providing pedagogical activities and concepts. As another example, the virtue of patience and love are passionately expressed by the respondents. One pre-service teacher addressed the value of patience and love:

> "What children need is basically teacher's love, someone who has the capacity to care for them and is willing to work with them patiently in the classroom."

The value of patience and love had a pervasive influence on their perception as teachers, their images of classroom practice, and their relationship with their students. They believed that their contributions to teaching lie in their personal characteristics, possessing professional ability and skill, and their consideration of students. They commented on the value of knowing the nature of the learners and knowing who they are personally and culturally. Those comments indicated that the teacher's role should be considered around students' perspectives, needs, interests, potential, and differences as well as their own characteristics as teachers in order to contribute to students'

social, intellectual, and character development.

Pre-service teachers' views regarding ways children learn appeared in various belief statements (e.g., statements about self-discovery approach to learning, students' characteristics, roles as teachers and individual differences). Those views represent the pre-service teachers' beliefs that learning is best where students have opportunities for self-discovery, where the atmosphere in the classroom is non-threatening, and where the teacher considers individual differences of students at the same time. The concept of open education was revealed when pre-service teachers mentioned setting up non-threatening environments, reinforcing natural learning and spontaneous learning through play while considering children's interests and differences. In their beliefs, the ideal early childhood teacher is a loving, caring, patient, understanding and deeply committed teacher, prepared to become involved with students.

Findings from pre-service teachers' written responses regarding reasons for schooling reveal a strong emphasis on social and cultural factors as well as academic purposes. They consider schools to be agencies for providing children with opportunities to experience the interactive life of the classroom, to develop social skill and interpersonal relationships, and to acquire appropriate forms of behavior within society. Several comments related to this perspective: "Children come to school for interactive and social purposes." Beliefs about children's needs from teachers exist in a context of beliefs about reasons for schooling. Personal needs, character cultivation, social and cultural needs and intellectual needs were mentioned in responses to the question about children's needs from teachers.

Joy and harmony, which reveals the Chinese idea of a relationship were mentioned frequently (beginning=16%, ending=17%) in both groups. Moreover, pre-service teachers feel

strong affection toward their students and see themselves as mentor and friend. The pre-service teachers' picture of the teacher/student relationship indicated the importance of an emotional bond. They believed that the emotional bond between teachers and students has a strong impact on students' learning. The teacher-student relationship was viewed as a way to integrate teaching and learning.

Cross-group differences

Although there was similarity in highly recurring key words, there also appeared to be substantial differences between the two groups. Chi-square analyses were conducted to evaluate whether the beginning-level group and the ending-level group were different on their views about teaching and learning. Significant cross-group differences emerged in pre-service teachers' responses (see Table 2).

Insert Table 2 about here

Chi-square analyses indicated that there are differences in what these pre-service teachers think about their roles as teachers, images of classroom practice, ways children learn, reasons for schooling, children's needs from teachers, and relationships with students. The beginning pre-service teachers were more likely than the ending pre-service teachers to mention enthusiasm, fairness, and responsibility, non-threatening learning, cognitive ability and appropriate forms of behavior within society, attitude for living and experience, and friendship between teacher and student. The ending pre-service teachers were more likely than the beginning pre-service teachers

to mention setting up rules for classroom teaching, spontaneous learning and self-exploration, learning and growing happily, and whole-heartedly talking with students.

Similar to the finding of Feiman-Nemser, et al., (1989), the main differences between these two groups revealed contrasts in the following aspects: (a) willingness to take responsibility for children's learning, (b) conception of how teaching should be conducted, (c) images of how learning experiences should be constructed, (d) thinking regarding integrating cognitive ability with social and culture learning, (e) children's learning from experience, and (f) the necessity of building relationship for teaching.

Willingness to take responsibility for children's learning. Beginning-level pre-service teachers express the themes of enthusiasm (χ^2=5.34, p<.05), fairness (χ^2=9.89, p<.005), and responsibility (χ^2=4.39, p<.05) when discussing teachers' role significantly more frequently than the ending-level group. Teacher responsibility was frequently mentioned in response to the question about teacher role by the beginning pre-service teachers which indicated their belief or willingness to take responsibility for students' learning. The entry-level pre-service teachers showed strong desires to assist students' learning and willingness to take responsibility for students' learning. They made comments such as the following:

"The most important roles as a teacher is enthusiasm in teaching. With enthusiasm, you can maintain high attention to children's needs and seek the ways to meet their needs."

"Equally treat every child, and let them know that I won't prefer anyone."

"It is necessary for a teacher to have a sense of responsibility for children's learning."

Pre-service teachers who were near the completion of their training programs mentioned enthusiasm less often as a factor when discussing teacher role. The beginning pre-service teachers

display care and affection toward students, and at the same time believe that "fairness" involves distribution of affection by removing themselves from entangling alliances that can lead to " favoritism." In this respect, affectivity and fairness are consistent in their beliefs.

Forty-nine percent of beginning pre-service teachers commented on the relationship between teacher and student as a form of "friends" and 22% described their relationship as "teacher and friend." However they do not comment on "equality," which is a big contrast with ending pre-service teachers' comments. The beginning pre-service teachers' general ideas about teacher-student relationship, without mentioning equality, point to a belief in the teacher as an authority figure. They seem to put the weight of responsibility for learning on the teacher. Finally, this growing difference can be understood in a Chinese culture where teachers are expected to play a key role in facilitating children's learning.

How teaching should be conducted. The two groups had different conceptions of "how teaching should be conducted." The ending-level pre-service teachers focused on classroom control, as indicated by their comments about setting up rules for teaching in the classroom (beginning=4%, ending=12%). A number of beginning pre-service teachers commented that it is important to work out class rules or establish a daily routine in their classroom. Commenting on class rules expressed the pre-service teachers' instructional belief in conducting the class according to established rules and procedures, which are important parts of creating and managing a learning environment. The ending pre-service teachers commented frequently on establishing and enforcing class rules and maintaining discipline (12%) in the classroom which indicated that their viewpoint about how teaching should be conducted is different from beginning pre-service teachers.

How learning experiences should be constructed. The two groups had distinctly different conceptions of how learning experiences should be constructed. Responses related to ways children learn as non-threatening (beginning=10%, ending=3.6%), spontaneous learning (beginning=3%, ending=15%), and self-exploration (beginning=1.6%, ending=6%) were significantly different between the groups. The ending pre-service teachers' conception of the learning process was that it lies within the students. Students should take initiative and an active role for learning. One of the ending pre-service teachers wrote her understanding of a teacher's responsibility for children's learning:

> "To enhance learning, the teachers or with students set up classroom rules to guide the flow of instructional events; then the spontaneous learning and self-exploration must be taken by students."

In a sense, this conception of active learning expressed the amount of trust the teacher has in students and in their capacity for spontaneous learning. One said:

> " The teacher's job is letting children learn spontaneously and explore according to their own interests."

Another said:

> " I want my students to be curious and take initiative. As a teacher, you know, you need to pay attention to their attitude toward learning. Children should be responsible for their own learning, where I regard myself as responsible for teaching. "

Ending pre-service teachers tended to believe that children play an active rather than passive role in learning. Their general ideas about children's learning pointed to a belief that children should have an innate motivation to learn.

We can detect that pre-service teachers' views shifted markedly from their own teaching responsibility which is related to their own characteristics, professional knowledge and skill, professional spirit and classroom management (e.g., non-threatening) to children's learning responsibility which is related to spontaneous learning, self-exploration, self-motivation. Beginning pre-service teachers' concerns were centered mostly on themselves as professionals. The ending pre-service teachers' concerns tended to be issues related to children's learning. Ending pre-service teachers stressed the importance of learner responsibility which can make a difference in their own learning. We may say that ending pre-service teachers had more confidence in teaching. Confident teachers establish and maintain effective learning environments rather than as authority figures (Reynolds, 1992).

Integrating cognitive ability with social and culture learning. Content analysis of the beginning-level pre-service teachers' response to reasons for schooling revealed high percentages of "cognitive ability and knowledge (36%) ", "interactive life of the classroom" (37%), "appropriate forms of behavior within society" (31%), "social skill, interpersonal relationship and appropriate behavior" (52%) and "socialization" (17%). These results show that the priority goals for schooling are to meet the social and cultural demands which require cognitive ability at the same time. The beginning group's emphasis on the function of schooling is to develop students' intellectual ability and knowledge and to transmit social value which is associated with the traditional view of teacher as one who preserves the national culture and social values.

The challenge for beginning pre-service teachers is to find the balance between teaching for cognitive ability and fostering social, cultural and personal demands. To emphasize the former, one beginning pre-service teacher claimed:

"First, cognitive ability should be enhanced in the schools in order to act in the society."

School traditionally has emphasized student's academic achievement for several reasons, such as preparing students for entrance examinations. From the Chinese perspective, cognitive ability and knowledge are essential for social- life purposes. The beginning group's emphasis on cognitive ability and knowledge (36%) was twice as high than the ending group (17%) which can be understood in term of the traditional view of the function of school and an intellectual model for social development. The intellectual model for social development assumes that cognitive ability is necessary for social and moral development; it reflects one reason for emphasizing the development of academic skills in Taiwan. Throughout teacher education, ending pre-service teachers appeared to continue to see cognitive ability as the cornerstone of students' learning at school. However, they expanded children's learning farther with social, cultural and personal dimensions even while they regarded cognitive ability and knowledge as important.

The ending group emphasized learning (beginning=5%, ending=22%), trying new things (beginning=6%, ending=11%), growing happily (beginning=2%, ending=12%), with a less strong emphasis on cognitive ability and knowledge compared to the beginning group. These results contradict common views about Taiwan teachers' major concern of academic preparation for students. That the ending pre-service teachers integrated more their sense of perspectives regarding reasons for schooling means that they considered learning in broad terms. Learning is viewed as bringing about happy growth, good interpersonal relationships, personal enrichment, and development on cognitive and social levels. Adjustment to the group, being part of the group, and enjoyment of learning are prized more highly than academic skill.

Stevenson, Lee, and Graham (1993) pointed out that Asian early childhood teachers

believe socioemotional development is a necessary precursor of intellectual development. That is why they do not emphasize teaching of academic skills until the child's emotional development is in a certain stage (around the age of 6). Thus, ending-point pre-service teachers' broad views about learning are consistent with the general belief that emotional development forms the basis for later academic or intellectual development.

Children's learning from experience. Chi-square analyses indicated that there were statistically significant differences between the beginning-level group and ending-level group beliefs about "attitude for living" (beginning=5%, ending=1%) and "experience" (beginning=16%, ending=1%). Beginning-level pre-service teachers were more likely to consider their role as transmitting social values. Their thinking about teaching focuses on providing experiences that stimulate learning. In general, children are expected to benefit from the school experience in social and cultural, personal, intellectual, and character cultivation. Learning may occur through imitating teachers and practicing new ways of acting and thinking under guidance. Beginning pre-service teachers expressed a belief in the importance of providing learning experiences for children. One beginning pre-service teacher wrote:

> "It is important, as a teacher, to provide positive learning experiences which will enhance students to want to learn."

Ending-level pre-service teachers commented frequently on meeting children's personal needs in response to the question about children needs from teachers. They de-emphasized gaining knowledge (beginning=37%, ending=26%).

Building relationships for teaching. There are significant differences between these two groups related to beliefs about being a friend to students (beginning=49%, ending=38%) and

being able to "whole-heartedly talk with each other" (beginning=5%, ending=8%). Considering other statements, authority (beginning=4%, ending=0%) and equality (beginning=0%, ending=38%), we can detect that beginning and ending students had differing concepts about teacher role. The ending pre-service teachers were more likely to give up their authority. In the words of one pre-service teacher:

> "I believe teaching is a matter of responsibility which is based on mutual relationship between teachers and students."

The ending pre-service teachers held an image of the teacher as a "teacher and friend" and the relationship between teachers and students was envisioned in terms of equality (38%), trust (9%), mutual respect (13%), communicating well (7%), interaction (5%), joy and harmony (17%). There seemed to be a growth of understanding about the relationship between teacher and student, but the views regarding teaching responsibility, control, and student responsibility were ambiguous. Ending pre-service teachers were more likely to give up their authority in the traditional sense; at the same time, they held contrasting views of classroom control. Their teaching ideology focused on establishing and enforcing class rules and maintaining discipline in the classroom. In their belief, it seems there is a line that has to be drawn between teacher and student in order to maintain a classroom with respect and discipline. This view goes along with the strong traditional Chinese view about teaching in which teachers must hold on to their authority and sense of control. Recurring comments about equality between teacher and student revealed some of their perspectives regarding shifting their teaching responsibility and learner responsibility, and their view regarding teacher and student relationship. They expect students to take initiative and to put effort into their learning. Successful teaching and learning depends on

both teachers and students.

In a similar vein, the ending-level pre-service teachers' comments about "trust" (9%), mutual respect (13%) and "equality"(38%) revealed a connection between teachers and students through trust, respect, and equality. This indicated that trust meant not just tolerating students' different perspectives; it meant considering students' perspectives. One pre-service teacher wrote her conception of trusting students' experience and their own learning:

> "I always think I should get down to the children's level to see from their eyes and to think from their perspectives. Then I can raise their expectations of themselves. They have so much potential to develop from their own learning and experience."

The ending pre-service teachers frequently mentioned trust regarding teacher-student relationship as well as setting up rules. Beliefs in "trust" (beginning=0%, ending=9%) appear to require a belief in their sense of control (beginning=4%, ending=12%). This notion was evident in such ending-level pre-service teachers' comments as the following:

> ". . . Set up classroom rules first. Then you have to let children learn in their particular ways. I know that they are independent and spontaneous learners."

After establishing and enforcing class rules, pre-service teachers have a belief that their students go through the self-cultivation process.

There appears to be inconsistency in believing that teacher-student relationships should be built on friendship, and, at the same time, believing that teachers must hold on to their authority and sense of control. A belief that the teacher must hold on his or her authority and sense of control can be understood in term of traditional Chinese beliefs about teachers who possess authority in their roles.

The ending pre-service teachers believe that teacher-student relationships should be based on equality and mutual respect. Trusting students' experience and ability to learn, ending pre-service teachers can teach based on the equality of teacher and student relationship. Learner responsibility and teaching responsibility come into to play.

Conclusion and Implications

Teacher education programs in Taiwan are designed to preserve traditional, Confucian values and beliefs. They are expected to be responsible for cultivating their students' professional spirit and personality and serve as an incubation in which prior beliefs or new concepts can mature until they are strong enough to hatch and survive in the real world. In examining goals of four teachers colleges and one polytechnic college, consistency was found between pre-service teachers' own beliefs and teachers colleges' goals: to help pre-service teachers develop a deep commitment to teaching and their other personal qualities and moral characters as well as to prepare teachers with adequate knowledge and skills in teaching.

This study identified a teacher-responsibility and student-responsibility shift in beliefs about teaching and learning. There was an assumption that teachers are responsible for students' learning by considering their own professional knowledge base, characteristics containing moral behaviors, intellectual talents, and professional spirit with deep commitment to teach found in Chinese culture. Pre-service teachers who were at the beginning of teacher education programs held views of teaching and learning which focused on their own responsibility to teach. Their strong sense of teachers' responsibility can be understood from the Chinese perspective in which teachers are expected to play a major role in facilitating children's learning; in their views about

students, which are indicators of their belief in the teacher as an authority figure and an external motivator; and in their lacking of trust in children's experience and capability to learn. As pre-service teachers proceed through their teacher education experience, many move toward the view of student's having responsibility for learning through self-discovery and self-motivation. They emphasize spontaneous learning through play. Their underlying concept of learning seems to be knowledge built by the mind actively instead of passively accepting information. Teachers are facilitators in interacting with children. They see modeling as being less important. Pre-service teachers who are at the end of teacher education programs emphasized students' learning responsibility more than their own teaching responsibility. Students play active roles and take responsibility for their learning.

A belief in the teaching responsibility of teachers moves to stronger beliefs in the learning responsibility of students, which assumes that students engage in self-study, self-motivation, and self-cultivation. This phenomenon indicates that concepts about teaching and learning are reframed. An early concern with teacher responsibility becomes reframed as a concern for the need to address the individual learner. Conflict between ending pre-service teachers' beliefs of maintaining classroom control and fostering self-directed learning can be understood in term of increasing teaching competence, experience, the build up of their trust in students' capability and experience in learning, along with a shift toward a deeper and more integrated understanding about teaching and learning. There is no inconsistency in believing that the teacher should take responsibility as fully as possible for student learning, and at the same time believing that the students must actively be involved in their own learning.

Findings suggest that pre-service teachers develop a set of beliefs about teaching and

learning in their teacher education programs. Pre-service teachers consider the transmission of academic content knowledge and social value as central reasons for schooling which appears in contrast to many of their ideas related to teacher role, ways children learn and images of classroom practice. This phenomenon is more strongly seen in the ending pre-service teachers who rarely refer to subject matter relevance. They refer to the individual learner, teacher personality, and teacher characteristics, such as enthusiasm or creativity. Their ideas of the process of learning and teaching are discrepant with their conservative views of schooling. The beginning pre-service teachers' comments about reasons for schooling reflect the trend that some schools in Taiwan emphasize the development of academic skills.

In Taiwan teacher education, there is a growing fusion of traditional Chinese beliefs with Western pedagogy. For example, the concept of open education which is influenced by Western pedagogy emerged from pre-service teachers' responses. Teacher education enables teachers to bridge the gap between Western pedagogical and traditional Chinese beliefs embodied in the Confucian philosophy.

Both sides of the social model for cognitive development versus the intellectual model for social development debate are represented among pre-service teachers in Taiwan. The beginning pre-service teachers stress the importance of cognitive ability and knowledge which can be understood in term of an intellectual model for ethical and proper behavior which is a part of the Chinese educational philosophy that assumes that cognitive ability is necessary for social and moral development. The intellectual model for social development reflects one reason for emphasizing the development of academic skills in Taiwan.

This study supports the idea that some of these views differ as a result of interaction with

learning experiences (Feiman-Nemser et al., 1989; Florio-Ruane & Lensmire, 1990; Hollingsworth, 1988, 1989; Skipper & Quantz, 1987; Tamir, 1991). For example, the pattern of reasons for schooling (social and cultural factors, academic, and personal goals) is consistent with an emphasis on early childhood education curriculum. This finding also suggests that pre-service teacher education has effects on the beliefs of pre-service teachers which contrast with some earlier studies (e.g., Finlayson & Cohen, 1967; Gibson, 1972; Lacey, 1977; McDiarmid, 1990; Zeichner & Tabachnick, 1981; Zeichner & Grant, 1981). Beliefs that pre-service teachers hold prior to the advent of formal training filter out their traditional beliefs about emphasizing academic skill in school to more social and individual learning. The ending pre-service teachers considered learning to involve integrating cognitive ability with social and culture learning. They move toward a balance between teaching for improved cognitive ability and fostering social cultural and personal demands.

Results from this study lead us to examine teacher preparation in the ways we structure our teacher education programs, and help us to gain a new perspective about the strengths and weaknesses in the ways we prepare our national teachers for young children. For example, the beginning-level pre-service teachers had narrow views about learning which focused on helping students develop their intellectual ability and knowledge. Therefore, by encouraging pre-service teachers to make explicit their views regarding learning, teacher educators can confront, challenge or support them during their teacher education. As a result, teacher education programs can have an impact on pre-service teachers by helping them be aware of their prior beliefs and challenging their misconceptions about teaching and learning.

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Table 1. Common Theme and Highly Recurring * Key Words Labeled in Each Category

Category	Common theme	B	E
Teacher role	1. Teacher characteristics		
	Patience	58%	45%
	Love	52%	44%
	2. Professionalism		
	Professional knowledge and skill	30%	30%
	As a mentor	4%	2%
	3. Consideration of students		
	Consider individual difference	9%	7.5%
Images of classroom practice	1. *Build relationships		
	2. Teacher characteristics		
	As a mentor	0%	1%
	Love	5%	4.5%
	3. Consider individual students		
	Consider individual difference	9%	12%
	4. Pedagogical concepts		
	Open education	6%	6%
Ways children learn	1. Self-discovery approach to learning		
	Open education	8%	10%
	2. Roles as teachers		
	As a mentor	3%	0%
	3. *Students' characteristics		
	4. Individual way of learning		
	Consider individual difference	12%	7%
	1. Academic goals		
Reasons for schooling	Try new things	6%	11%
	2. *Personal goals		

Category	Common theme	B	E
	3. Inculcate social, cultural learning		
	Interactive life of the classroom	37%	28%
	Social skill, interpersonal relationship, and appropriate behavior	52%	35%
	Socialization	17%	21%
Children's needs	1. *Personal needs		
	2. *Character cultivation		
	3. *Cultural and social needs		
	4. Academic needs		
	Knowledge	37%	26%
Relationship between teachers and students	1. Roles		
	Teachers and friends	22%	24%
	2. Characteristics		
	Joy and harmony	16%	17%
	Trust	0%	9%
	Authority	4%	0%
	Equality	0%	38%
	3. Working relationships		
	Love each other	6%	5%
	Mutual respect	0%	13%
	Communicate well	0%	7%
	Interaction	0%	5%

B=beginning group, E= ending group;

* Themes without a percentage had as highly recurring key words

Table 2. Chi-square Analyses of Intergroup Significant Differences

	x^2	p	Phi	Beginning	Ending
1. Teacher role					
enthusiasm	5.34	.021	.134	10%	5%
fairness	9.89	.002	.182	8%	1%
responsibility	4.39	.036	.121	6%	1%
2. Images of classroom practice					
set up rules	8.59	.003	.170	4%	12%
3. Ways children learn					
non-threatening	4.08	.043	.117	10%	4%
spontaneous learning	14.65	.000	.222	3%	15%
self-exploration	6.66	.01	.149	1.6%	6%
4. Reasons for schooling					
cognitive ability, knowledge	13.30	.001	.211	36%	17%
learning	20.29	.000	.261	5%	22%
growing happily	12.12	.001	.202	2%	12%
appropriate forms of behavior within society	10.54	.001	.188	31%	13%
5. Children's needs from teachers					
attitude for living	5.43	.020	.075	5%	1%
experience	17.58	.000	.243	16%	1%
6. Relationship between teachers and students					
friends	4.17	.041	.118	49%	38%
whole-heartedly talk with each other	4.73	.030	.126	5%	8%

[a] df=1 [b] n=298